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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,952	05/30/2006	Adrian David Busch	0074-510575	8553
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LAM, DUNG LE				
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2617				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/523,952

**Applicant(s)**

BUSCH ET AL.

**Examiner**

DUNG LAM

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 08 September 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 120-189 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 120-147 and 185-189 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)–(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. The Information Disclosure Statement submitted on 8/2/06 has been considered by the examiner (see attached PTO-1449 form).

***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "A macrodiversity mobile transceiver controlling channel allocation".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim **120-147, 185-189** rejected under 35 U.S.C. 102(b) as being anticipated by **Hakkinen** (US 20010023185).

3. Regarding claim 120, **Hakkinen** teaches a communications system including:
  - a plurality of base station transceivers linked by a network over which the base station transceivers communicate ([0026, 0030], Fig 2; BTS 33-36);
  - a plurality of mobile transceivers adapted to communicate via the base station transceivers using macrodiversity ([0026, 0030] Fig 2; MS 37-38);
  - wherein the mobile transceivers are further adapted to control allocation of system resources to enable communication ([12, 0026, 0030, 39]).
4. Regarding claim 121, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the macrodiversity includes macrodiversity at a base station transceiver when receiving a signal from a mobile transceiver ([30, 39, 12, 26]).
5. Regarding claim 122, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the macrodiversity includes macrodiversity at a mobile transceiver when receiving a signal from a base station transceiver ([30, 26]).
6. Regarding claim 123, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the channel resources allocation controlled by the mobile transceiver includes the use of base station transceiver channels in a communications downlink between a base station transceiver and a mobile transceiver ([30, 26]).
7. Regarding claim 124, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the channel resources allocation controlled by the mobile transceiver

includes the use of base station transceivers in a communications downlink between base transceivers and a mobile transceiver ([30, 33, 26]).

8. Regarding claim 125, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the channel resources allocation controlled by the mobile transceiver includes the use of base station transceiver channels in a communications uplink between a base station transceiver and a mobile transceiver ([30, 33, 26]).

9. Regarding claim 126, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the channel resources allocation controlled by the mobile transceiver includes the use of base station transceivers in a communications uplink between base transceivers and a mobile transceiver ([30, 33, 26]).

10. Regarding claim 127, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the base station transceiver network is shared with other services ([30, 33, 26]).

11. Regarding claim 128, **Hakkinen** teaches a communications system as claimed in claim 120 wherein the base station transceiver network includes a link to another base station transceiver network ([30, 33, 26]).

12. Regarding claim 129, **Hakkinen** teaches a communication system as claimed in claim 121 wherein the mobile transceiver is adapted to use macrodiversity by sending a packet to a plurality of base station transceivers ([30, 33, 26]).

13. Regarding claim 130, **Hakkinen** teaches a communications system as claimed in claim 129 wherein a base station transceiver or other network node is adapted to use macrodiversity when receiving a signal from a mobile transceiver by receiving packets

from a plurality of base station transceivers that have received packets from the mobile transceiver, and combining the received packets using diversity combining ([30, 33, 26]).

14. Regarding claim 131, **Hakkinen** teaches a communication system as claimed in claim 130 wherein the base station or other new work node is further adapted to use macrodiversity when receiving a signal from a mobile transceiver by forwarding the combined packet to at least one specified base station transceiver for transmission to another mobile transceiver ([30, 33, 26]).

15. Regarding claim 132, **Hakkinen** teaches a communication system as claimed in claim 122 wherein the base station transceivers are adapted to use macrodiversity by sending a packet from a plurality of base station transceivers to a mobile transceiver ([30, 33, 26]).

16. Regarding claim 133, **Hakkinen** teaches a communications system as claimed in claim 132 wherein a mobile transceiver is adapted to use macrodiversity when receiving a signal from a base station transceiver by receiving packets from a plurality of base station transceivers and diversity combining the packets ([30, 33, 26]).

Claim **120** rejected under 35 U.S.C. 102(b) as being anticipated by **Bantz** (EP 0622911).

17. Regarding claim 120, **Bantz** teaches a communications system including (Abstract):

- a plurality of base station transceivers linked by a network over which the base station transceivers communicate (Abstract);

- a plurality of mobile transceivers adapted to communicate via the base station transceivers using macrodiversity (C2 L25-55; C3 L25-52);  
wherein the mobile transceivers are further adapted to control allocation of system resources to enable communication (C7 L 1-45).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 134-138 rejected under 35 U.S.C. 103(a) as being unpatentable over **Hakkinen** in view of **Dent** (US 2004/0110506)

18. Regarding claim 134 and 136, **Hakkinen** teaches a communication system as claimed in claim 120 except for identifying uplink channel usage in the range of the mobile terminal, identifying one or more spare uplink channels and transmitting over the one or identified channels without negotiation with the base station. However, in an analogous art, mobile transceivers are adapted to allocate system resources by: identifying uplink channel usage in the range of the mobile terminal, identifying one or more spare uplink channels, and transmitting over the one or identified channels without negotiation with the base station (Fig. 6, [55] using free available channel to transmit). Therefore, it would have been obvious to identify the spare uplink channels to transmit the data in order to avoid interference.

19. Regarding claim 135 and 137, **Hakkinen** and Dent teach a communication system as claimed in claim 134 wherein the mobile transceivers are further adapted to allocate system resources by identifying a spare uplink channel for transmission to minimise interference (Dent [55]).

20. Regarding claim 138, **Hakkinen** and Dent teach a communication system as claimed in claim 134 except wherein a transmitting mobile transceiver is adapted to negotiate the number of links with a receiving mobile transceiver. However, the examiner takes official notice that the concept of negotiating the number links is well known in order for both ends to know what to expect and receive data without fail.

21. Claims **139 -147, 185-187** rejected under 35 U.S.C. 103(a) as being unpatentable over **Hakkinen** in view of **Dent** further in view of **Stuart (US 6525853)**

22. Regarding claim 139, **Hakkinen** teaches a communication system as claimed in claim 134 except wherein the mobile transceivers are adapted to split the data to be transmitted into multiple streams and transmit each stream over a separate link. However, in an analogous art, **Stuart** teaches transceivers are adapted to split the data to be transmitted into multiple streams and transmit each stream over a separate link to increase capacity (C1 L30-50). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Stuart's teaching to increase capacity.

23. Regarding claim 140, **Hakkinen, Dent and Stuart** teach a communication system as claimed in claim 139 except wherein a mobile transceiver receiving data transmitted over multiple streams is adapted to combine the multiple data streams.



However, the examiner takes Official Notice that macro-diversity requires the multiple streams to be combined at the receiver end. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine said reference to combine the streams to receive the best signal.

24. Regarding claim 141, **Hakkinen** and Dent teach a communication system as claimed in claim 134 except wherein the mobile transceivers are adapted to stop using a link if the amount of available channel resources reduces. However, the examiner takes official notice that this is a well known concept to stop using a link if the available resources reduces for the purpose of load balancing. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine said references with the known concept to avoid overloading of resource usage.

25. Regarding claim 145, **Hakkinen** teaches a communication system as claimed in claim 144 wherein each register stores at least a portion of the base station transceiver and time slot allocations of each mobile transceiver.

26. Regarding claim 146, **Hakkinen** teaches a communication system as claimed in claim 144 wherein a mobile transceiver uses a register to find the primary and secondary destination base station transceivers or a destination mobile transceiver.

27. Regarding claim 147, **Hakkinen** teaches a communication system as claimed in claim 120 wherein the mobile transceivers use signal quality metrics to determine a link over which to transmit.

28. Regarding claims 185 - 187, they are similar to claims 136 and thus rejected for the same reasons as claim 136.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG LAM whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 5:30 pm, Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/  
Supervisory Patent Examiner, Art Unit 2617